

AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning on page 6, line 17 of the specification with the following amended paragraph:

The facial image decision unit 300 decides whether the input facial image is occluded, through the ~~hiding~~ occluding-decision algorithm that has been obtained from the training images stored in the memory unit 100. The occluding-decision algorithm, using Support Vector Machines, is expressed as the following Formula 4.

Please replace the paragraph beginning on page 6, line 23 of the specification with the following amended paragraph:

If a value obtained from the ~~hiding~~ occluding-decision algorithm in Formula 4 is 1, the facial image is decided to be a normal one. On the other hand, if the value from the algorithm is -1, the facial image is determined to be a partly occluded one. This is because the algorithm for deciding whether the facial image is occluded has been configured after the normal and partly occluded facial images stored in the memory unit 100 are set to have class values of 1 and -1, respectively, and then trained.

Please replace the paragraph beginning on page 7, line ¹⁵~~16~~ of the specification with the following amended paragraph:

Hereinafter, a process of calculating y_i , λ_i and b of the ~~hiding~~ occluding-decision algorithm will be described by way of example.

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Please replace the paragraph beginning on page 8, line ²~~3~~ of the specification with the following amended paragraph:

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Therefore, it can be correctly determined whether the facial images are occluded, by extracting eigenvectors and weights from the input facial images and assigning substituting the extracted eigenvectors and weights into the ~~hiding~~ occluding-decision algorithm.

Please replace the paragraph beginning on page 8, line ²⁶~~27~~ of the specification with the following amended paragraph:

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Steps S150 to S158 are to derive the algorithm for determining whether the face is occluded. After the ~~hiding~~-decision algorithm has been derived, steps S100 to S120 of deriving the ~~hiding~~ occluding-decision algorithm are not performed any longer.

Please replace the paragraph beginning on page 9, line ²⁷~~28~~ of the specification with the following amended paragraph:

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Next, the extracted eigenvectors and weights of the user image are applied to the ~~hiding~~ occluding-decision algorithm that has been derived from steps S150 to S158 (S112). That is, the detected eigenvectors and weights of the user image are applied to $K(x, x_i)$, and the class values $f(x)$ are then calculated by using the values of y_i , λ_i and b obtained through the eigenvectors and weights of the training image. Here, the class value $f(x)$ may be obtained according to the higher and lower regions, respectively.

Please replace the paragraph beginning on page 10, line ⁴~~5~~ of the specification with the following amended paragraph:

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Thereafter, it is determined whether the class values $f(x)$ of the higher and lower regions are 1 or -1, in order to determine whether the facial image is occluded (S114 and S118). Thus, if the value obtained through the ~~hiding~~ occluding-decision algorithm is 1, it is determined that the facial image is normal (S116). On the other hand, if the value obtained through the algorithm is -1, it is determined that the facial image is partly occluded (S120).

Please replace the paragraph beginning on page 12, line ⁶~~7~~ of the specification with the following amended paragraph:

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As a result of the test, it can be understood that the determination whether a user's facial region is occluded is made at the search rate of 95% or above and that improper recognition due to the ~~hiding~~ occluding of a user's facial features is extremely low.

Please replace the paragraph beginning on page 12, line ⁹~~10~~ of the specification with the following amended paragraph:

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Since facial images under all conditions capable of being produced with the training images are included, the ~~hiding~~ occluding-decision algorithm that can be employed for all facial images under various conditions can be derived. Thus, a highly successful search rate can be obtained when it is determined whether the facial image of the user is occluded.

Please replace the paragraph beginning on page 12, line ¹³~~14~~ of the specification with the following amended paragraph:

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According to the present invention constructed as such, there is an advantage in that it can be correctly and quickly determined through the ~~hiding~~ occluding-decision algorithm whether input facial images of the users are occluded, even though a variety of facial images are inputted.

Please replace the Abstract with the following amended Abstract:

The present invention relates to a system and method for detecting a face that is capable of quickly and correctly deciding whether an input facial image is occluded, regardless of any type of facial image to be inputted. The present invention is characterized in that eigenvectors and weights are extracted from the input facial image using principal component analysis (PCA) and the extracted eigenvectors and weights of the user image are substituted into a ~~hiding~~ occluding-decision algorithm, whereby it can be determined whether the facial image is occluded.